

Notice of Allowability	Application No.	Applicant(s)	
	10/815,494	MEDINA ET AL.	
	Examiner	Art Unit	
	Craig A. Renner	2627	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

- 1. ☒ This communication is responsive to paper(s) filed 23 August 2007.
 - 2. ☒ The allowed claim(s) is/are 11 and 13-16 (renumbered 1-5, respectively).
 - 3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 - 1. ☐ Certified copies of the priority documents have been received.
 - 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

- 4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 - 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
- 6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
<u>Paper No./Mail Date _____</u> |
| 3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
<u>Paper No./Mail Date _____</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____ |

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 23 August 2007 has been entered.

2. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Janyce R. Mitchell on 18 September 2007.

3. The application has been amended as follows:

IN THE TITLE:

The title has been amended to read as follows:

--Magnetic Recording Head With High Saturation Magnetic
Flux Density CoNiFe Thin Film Composition--.

IN THE CLAIMS:

The claim listing has been amended to read as follows:

1-10. (Cancelled).

11. (Currently Amended) A magnetic recording head comprising:

a first pole;

a second pole;

a write coil, at least a portion of the write coil residing between the first pole and the second pole;

a write gap residing between a part of the first pole and a part of the second pole;

wherein at least a portion of at least one of the first pole and the second pole are is plated using a plating solution including hydroxymethyl-p-tolylsulfone (HPT), the plating solution being configured to such that the at least the portion includes a CoNiFe film having a high saturation magnetic flux density of greater than 2.2 Tesla and having a composition of 58-62 ~~50-70~~ weight percent of Fe and 3.5-4 ~~3-8~~ weight percent of Ni, the CoNiFe film having a thickness of not more than one micron, ~~and wherein the CoNiFe film has the high saturation magnetic flux density of greater than 2.2 Tesla and a composition of 58-62 weight percent of Fe and 3.5-4 weight percent of Ni.~~

12. (Canceled).

13. (Original) The magnetic recording head of claim 11 wherein the CoNiFe film is a soft magnetic film.

14. (Original) The magnetic recording head of claim 13 wherein the CoNiFe film has a hard axis coercivity of less than or equal to two Oe and an easy axis coercivity of less than or equal to six Oe.

15. (Original) The magnetic recording head of claim 11 wherein the CoNiFe film has a low perpendicular anisotropy field of less than thirty five Oe.

16. (Previously Presented) The magnetic recording head of claim 11 wherein the CoNiFe film has a low perpendicular anisotropy field of less than twenty Oe.

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. This includes Kanada et al. (US 2003/0048582), which teaches a magnetic recording head with a CoNiFe film having a mean chemical composition of 50-90 weight percent of Fe and 2-20 weight percent of Ni with the weight percent of Fe varying in a thickness direction to achieve a saturation magnetic flux density of greater than 2.2 Tesla; and Kudo et al. (US 2004/0101712), which teaches a magnetic recording head with a CoNiFe film having a composition of 60-80 weight percent of Fe and 0-2 weight percent of Ni to achieve a saturation magnetic flux density of greater than 2.3 Tesla.

5. The following is an examiner's statement of reasons for allowance:


The prior art of record does not teach nor suggest the magnetic recording head as claimed, "wherein at least a portion of at least one of the first pole and the second pole is plated using a plating solution including hydroxymethyl-p-tolylsulfone (HPT), the plating solution being configured to such that the at least the portion includes a CoNiFe film having a high saturation magnetic flux density of greater than 2.2 Tesla and having a composition of 58-62 weight percent of Fe and 3.5-4 weight percent of Ni, the CoNiFe film having a thickness of not more than one micron." While some of the prior art of record includes large weight percent ranges for these materials which encompass the claimed narrow ranges, none of the prior art teaches or suggests the specifically claimed narrow ranges which accomplish the high saturation magnetic flux density of greater than 2.2 Tesla in a CoNiFe film having a thickness of not more than one micron.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Craig A. Renner whose telephone number is (571) 272-7580. The examiner can normally be reached on Tuesday-Friday 9:00 AM - 7:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (571) 272-7579. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Craig A. Renner
Primary Examiner
Art Unit 2627

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